

**METHOD AND APPARATUS FOR PRINTING ON RIGID PANELS AND
OTHER CONTOURED, TEXTURED OR THICK SUBSTRATES**

Abstract of the Disclosure:

Ink jet printing is provided onto rigid panels such as office partitions, which
5 have surfaces that are contoured, textured or made of a fabric or other three-
dimensional material, or are otherwise differently spaced from the plane of the
panel such that the distance between a printing element and the point on the
surface on which ink is to be deposited is not always the same or exactly
predictable. Preferably, fabric covered panels are printed using ink jet printing,
10 preferably using ultraviolet (UV) light curable ink, which is first, at least partially
cured with UV light and then subjected to heating to more completely cure and
dry the ink to remove, by evaporation or otherwise, the uncured monomers. The
panel surface may be contoured by quilting or molding processes. Print head
to panel spacing is adjustable to maintain a predetermined constant distance
15 from the printing element to the surface of the panel where the ink is to be
applied. A contact sensor such as a rolling element or a non-contact sensor
such as a laser or other optical element may be used to produce a
measurement, in response to which the spacing is adjusted. Alternatively, an
initial measurement can be made and the contour of the surface followed by
20 programmed control. A textured surface may be followed to within a millimeter,
more or less, to optimize ink jetting distance. The position or focal length of the
UV light curing head may also be varied to maintain focus of the UV light on the
ink on a contoured surface of the substrate.